

The background of the slide is a stylized map. It features a light blue river winding through a landscape with various colored regions: yellow, pink, and light green. In the foreground, there are dark green, silhouetted evergreen trees.

GIS

Standard

Using Model Builder And Crystal Reports For Land Use Planning Process Documentation and Analysis

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Planning Analysis and Documentation Requirements

- Transparent
 - Analytical processes that lead to management decisions on public lands must be documented.
- Public domain
 - Analysis and data used to make management decisions on public lands must be available to the public.
- Reproducible
 - Anybody starting with the same information, should be able to achieve the same results.



**What does this have to do with
GIS and model builder?**

The Big Concept

For Documentation Purposes:

**Well documented GIS models can be to
analysis what good metadata is to data.**

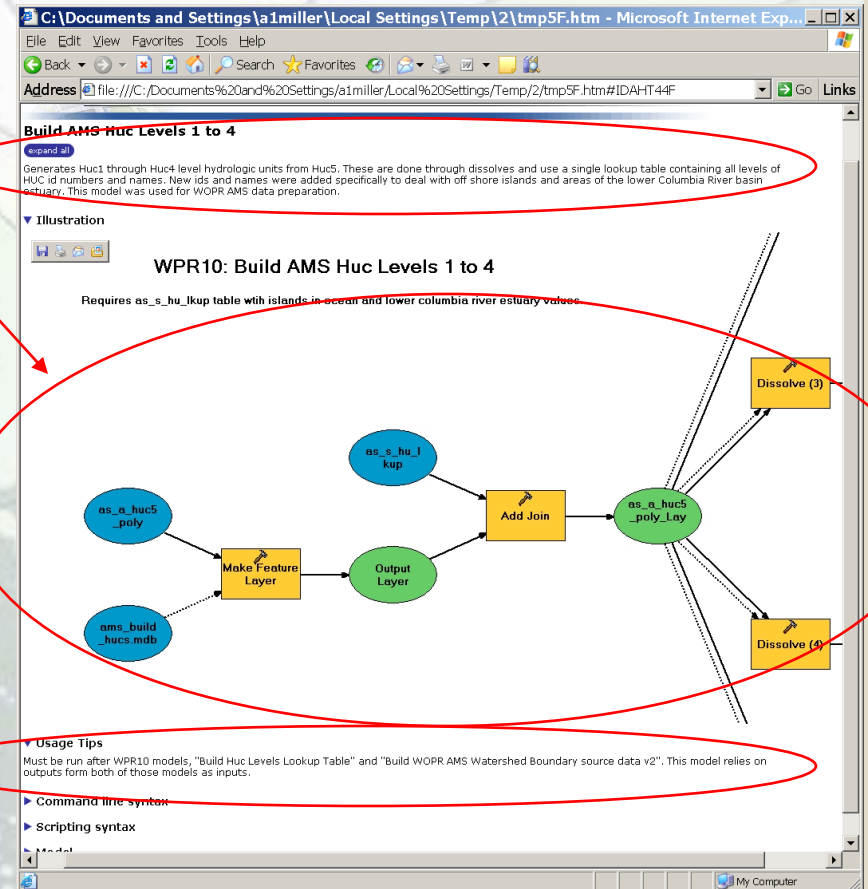
Types of Planning Support Processes Being Done In GIS With Model Builder

- Creating project work areas.
 - Create workspace, create geodatabase, etc..
- Transferring data.
 - Copy, feature class to feature class, conversion tools, etc...
- Formatting and standardizing spatial data.
 - Project, clip to project area, rename, reformat fields, etc...
- Standardized modules.
 - Area and distance calculations.
 - Spatial majority rules process.
- Simple Analysis.
 - Overlays, buffers, clips, etc...
- Complex Analysis.
 - Riparian reserve areas, public access evaluations, etc...

Documentation Method In Model Builder

Help File with Diagram

- General overall description of process and purpose.
- Visual Representation of process flow.
- Can indicate appropriate use.
- Can be shared as single document.



Structuring Models



- Not looking for the ultimate all encompassing single click super model.



- Package models in logical pieces, that are easier to comprehend and document.

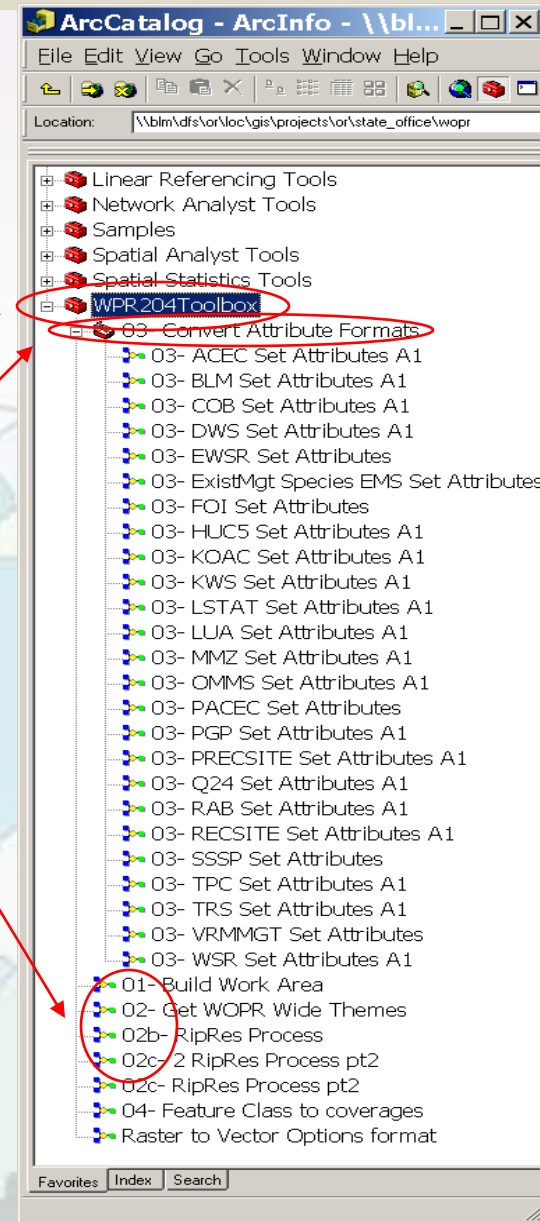


- If necessary, build scripts to drive the whole process from start to finish.

30 more models
that are part of the
same analysis

Storing Models

- Toolboxes for work tasks (example: WPR204Toolbox)
- Models named to indicate order. (01-, 02-, etc...)
- Toolsets used to store parallel processes together.
- Toolboxes and scripts are stored in work folder with other task documentation and data, not in a central repository.
- We do not, store toolboxes within geodatabases. Too many database memory limitations.



Model Builder Conclusions

- Good middle ground for documenting GIS processes.
- Can share process steps and concepts with those who do not have ArcGIS.
- GIS Analysts on a project have a common language for discussing their work.
- Documentation and functional code are integrated.
- Effectively replaces previous documentation methods (data flow diagrams, .aml scripts, word documents)

Model Builder Expectations

- Due to technology and/or data changes existing models are not expected to run 12-24 months from now.
- **Planning models will be used as a guide for creating more polished tools for use in implementation and monitoring of approved plan.**
- Model documentation and metadata from planning efforts should be sufficient for GIS analysts and planners to evaluate and comprehend at the start of the next planning cycle (7-10 years).



Intermission

Standardized Reports

- **Reports versus data (a fuzzy semantics debate).**
Databases and spreadsheets hold data that can be viewed in a variety of reporting formats just like GIS feature classes hold data that can be viewed in a variety of map formats.
- **Typical report generation tools:**
ESRI Reports, MS Access reports, Crystal Reports.
(Adobe Acrobat)

Standardized Reports in the Context of Planning

- **The use of standardized report formats is more about communication within a project or organization than about finished products for publication.**
- **For consistency it is better to modify a derived report view of data than modifying the actual data.**
- **By including standard report elements (date/time,etc...) it is much easier to maintain version control of information in a planning process.**

Using Crystal Reports

The Good:

- Standard reports and report elements.
- Flexibility of source data formats. (.mdb,xls,SDE,etc...)
- Works well with GIS source data and non-GIS data.
- Easy to refresh reports with changes to data or changes in sources of data.
- Flexible output formats (.pdf,.xls, etc...)
- *Software comes with the standard install of ArcGIS.

The Not-so-good:

- Steep initial learning curve.
- Some very non-standard interfaces and quirky feature locations.
- No longer packaged as a default with GIS purchases (as of ArcGIS v9.3).

Standard Report Elements

- Title / SubTitle
- Date/Time
- Disclaimers
- Body
- File name/location
- Project identifier
- Page number

25-Apr-2007

General Land Use Allocations by Sustainable Yield Unit (No Action Alternative, DRAFT Acres)

This report was created for Western Oregon Plan Revision, No Action Alternative. Areas represented are in acres, on BLM lands only, based on FOI/LLI common BLM ownership, and as used in Options harvest modelling. Note that this projected alternatives data does not contain information for the Klamath Falls East Sustainable Yield Unit and therefore is smaller than the BLM area for the entire WOPR plan area. Areas are based on 10 meter raster data.

<u>Sustainable Yield Unit</u>	<u>Land Use Allocation</u>	<u>Acres</u>	
Coos Bay	Congressional Reserves	564	0% of SYU
	Late-Successional Reserve	157,410	49% of SYU
	Administratively Withdrawn	28,058	9% of SYU
	Riparian Reserve	61,997	19% of SYU
	Matrix	73,175	23% of SYU

WOPR Total:

2,377,480

geospatial07_example_rpt

ORWA BLM, Western Oregon Plan Revision

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Crystal Reports Conclusions

- An underutilized tool.
- Works well for establishing standard look and feel for project reports.
- Most useful when generating many reports (such as a series) with the same elements.
- Developing reports works best when software is used outside of the GIS.
- Has potential uses beyond planning and GIS application.

Standard Reports Conclusions

(regardless of the specific software solution)

- Standardized reports require standardized data.
- Allow refresh of report content as soon as source data is updated.
- Allow wide range of reports serving different purposes from the same source data.
- Help enforce a common language for discussing and sharing tabular information.
- There are a variety of tools that can be used for standardizing reports, and they will continue to evolve.
- Standardized Reports are not just a GIS thing.

Questions?

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